

## Environmental Protection Agency

## § 86.129-80

revising paragraph (d)(1)(iv). Since both paragraphs (a) and (d) of § 86.129-00 are reserved and contain no text, these amendments could not be made. For the convenience of the user, the revised text is set forth as follows:

### § 86.129-00 Road load power, test weight, and inertia weight class determination.

\* \* \* \*

(a) \* \* \*

\* \* \* \*

<sup>4</sup>For model year 1994 and later heavy light-duty trucks not subject to the Tier 0 standards of § 86.094-9, test weight basis shall be adjusted loaded vehicle weight, as defined in § 86.094-2 or 86.1803-01 as applicable. For all other vehicles, test weight basis shall be loaded vehicle weight, as defined in § 86.082-2 or 86.1803-01 as applicable.

\* \* \* \*

(d) \* \* \*

(1) \* \* \*

(iv) Small-volume manufacturers, as defined in § 86.094-14(b)(1) or § 86.1838-01 as applicable, may use an alternate method for generating fuel temperature profiles, subject to the approval of the Administrator.

\* \* \* \*

### § 86.129-80 Road load power, test weight, and inertia weight class determination.

(a) [Reserved]

(b) *Power absorption unit adjustment—light-duty trucks.* (1) The power absorption unit shall be adjusted to reproduce road load power at 50 mph true speed. The indicated road load power setting shall take into account the dynamometer friction. The relationship between road load (absorbed) power and indicated road load power for a particular dynamometer shall be determined by the procedure outlined in § 86.118 or other suitable means.

(2) The road load power listed in the table above shall be used or the vehicle manufacturer may determine the road load power by an alternate procedure requested by the manufacturer and approved in advance by the Administrator.

(3) Where it is expected that more than 33 percent of a car line within an engine-system combination will be

equipped with air conditioning per § 86.080-24(g)(2), the road load power listed above or as determined in paragraph (b)(2) of this section shall be increased by 10 percent, up to a maximum increase of 1.4 horsepower, for testing all test vehicles representing that car line within that engine-system combination if those vehicles are intended to be offered with air conditioning in production. The above increase for air conditioning shall be added prior to rounding off as instructed by notes 2 and 3 of the table.

(c) *Power absorption unit adjustment—light-duty vehicles.* (1) The power absorption unit shall be adjusted to reproduce road load power at 50 mph true speed. The dynamometer power absorption shall take into account the dynamometer friction, as discussed in § 86.118.

(2) The dynamometer road load setting is determined from the equivalent test weight, the reference frontal area, the body shape, the vehicle protuberances, and the tire type by the following equations.

(i) For light-duty vehicles to be tested on a twin roll dynamometer.

$$Hp = aA + P + tW$$

where:

Hp = the dynamometer power absorber setting at 50 mph (horsepower).

A = the vehicle reference frontal area (ft<sup>2</sup>).

The vehicle reference frontal area is defined as the area of the orthogonal projection of the vehicle; including tires and suspension components, but excluding vehicle protuberances, onto a plane perpendicular to both the longitudinal plane of the vehicle and the surface upon which the vehicle is positioned. Measurements of this area shall be computed to the nearest tenth of a square foot using a method approved in advance by the Administrator.

P = the protuberance power correction factor from table 1 of this paragraph (horsepower).

W = vehicle equivalent test weight (lbs) from the table in paragraph (a).

a = 0.43 for fastback-shaped vehicles; = 0.50 for all other light duty vehicles.

t = 0.0 for vehicles equipped with radial ply tires; =  $3 \times 10^{-4}$  for all other vehicles.

A vehicle is considered to have a fastback shape if the rearward projection of that portion of the rear surface ( $A_r$ ) which slopes at an angle of less than 20

degrees from the horizontal is at least 25 percent as large as the vehicle reference frontal area. In addition, this surface must be smooth, continuous,

and free from any local transitions greater than four degrees. An example of a fastback shape is presented in Figure 1.

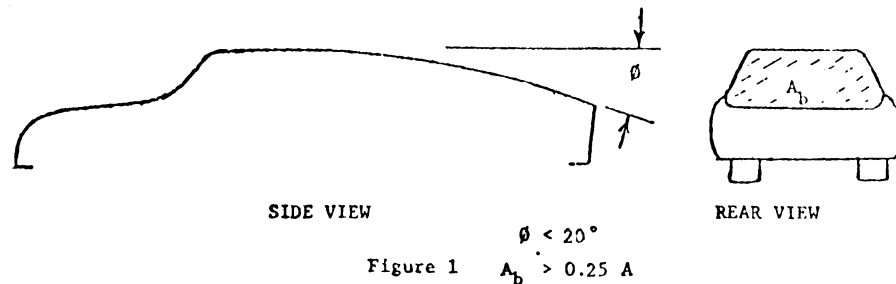


TABLE I—PROTUBERANCE POWER, P, VERSUS TOTAL PROTUBERANCE FRONTAL AREA,  $A_p$

| $A_p$ (square foot)     | P (horsepower) |
|-------------------------|----------------|
| $A_p < 0.30$ .....      | 0.0            |
| $0.30 A_p < 0.60$ ..... | .40            |
| $0.60 A_p < 0.90$ ..... | .70            |
| $0.90 A_p < 1.20$ ..... | 1.00           |
| $1.20 A_p < 1.50$ ..... | 1.30           |
| $1.50 A_p < 1.80$ ..... | 1.60           |
| $1.80 A_p < 2.10$ ..... | 1.90           |
| $2.10 A_p < 2.40$ ..... | 2.20           |
| $2.40 A_p < 2.70$ ..... | 2.50           |
| $2.70 A_p < 3.00$ ..... | 2.80           |
| $3.00 A_p$ .....        | 3.10           |

The protuberance frontal area,  $A_p$ , is defined in a manner analogous to the definition of the vehicle reference frontal area, i.e., the total area of the orthogonal projections of the vehicle mirrors, hood ornaments, roof racks, and other protuberance onto a plane(s) perpendicular to both the longitudinal plane of the vehicle and the surface upon which the vehicle is positioned. A protuberance is defined as any fixture attached to the vehicle protruding more than 1 inch from the vehicle surface and having a projected area greater than 0.01 ft<sup>2</sup> with the area calculated by a method approved in advance by the Administrator. Included in the total protuberance frontal area shall be all fixtures which occur as standard equipment. The area of any optional equipment shall also be included if it is expected that more than 33 percent of the car line sold will be equipped with this option.

(ii) The dynamometer power absorber setting for light-duty vehicles shall be rounded to the nearest 0.1 horsepower.

(iii) For light-duty vehicles to be tested on a single, large roll dynamometer.

$$H_p = aA + P + (5.0 \times 10^{-4} + 0.33t)W$$

All symbols in the above equation are defined in paragraph (c)(2)(i) of this section. The rounding criteria of paragraph (c)(2)(i) also apply to this paragraph.

(3) The road load power calculated above shall be used or the vehicle manufacturer may determine the road load power by an alternate procedure requested by the manufacturer and approved in advance by the Administrator.

(4) Where it is expected that more than 33 percent of a car line within an engine-system combination will be equipped with air conditioning, per § 86.080-24(g)(2), the road load power as determined in paragraph (c) (2) or (3) of this section shall be increased by 10 percent up to a maximum increment of 1.4 horsepower, for testing all test vehicles of that car line within that engine-system combination if those vehicles are intended to be offered with air conditioning in production. This power increment shall be added to the indicated dynamometer power absorption setting prior to rounding off this value.

[42 FR 45653, Sept. 12, 1977, as amended at 43 FR 52921, Nov. 14, 1978; 79 FR 23696, Apr. 28, 2014]

**§ 86.129-94 Road load power, test weight, inertia weight class determination, and fuel temperature profile.**

Section 86.129-94 includes text that specifies requirements that differ from § 86.129-80. Where a paragraph in